



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,601	05/17/2006	Hans Boffo	GRIMM 236-KFM	4759
10/037	7/5/0	08/12/2009		
MILDE & HOFFBERG, LLP				
10 BANK STREET				
SUITE 460				
WHITE PLAINS, NY 10606				
EXAMINER				
HAGEMAN, MARK				
ART UNIT		PAPER NUMBER		
3653				
MAIL DATE		DELIVERY MODE		
08/12/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/579,601

**Applicant(s)**

BOFFO ET AL.

**Examiner**

Mark Hageman

**Art Unit**

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 and 27 is/are rejected.
- 7) ☒ Claim(s) 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 27 is objected to because the language "using a comprising a conveyor having. . ." does not make sense. It appears that words are missing or extra words have been included. Correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 27 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More specifically MPEP section 2173.05(p) states, A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph." Claim 27 recites both structural and method step limitations and is therefore indefinite. Amending the claim to include a providing step for instance "providing a sorting device comprising . . ." would alleviate this and the following 101 rejection. Once the structural limitations have been properly introduced through a providing step they can be later referenced in the subsequent method steps.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 27 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 27 is directed to neither a process nor a machine but rather an overlap of two different statutory classes of invention. 35 U.S.C. 101 is drafted so as to set forth the statutory classes of invention in the alternative only. See MPEP section 2173(p).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,561,545 to Carlow in view of US 6,311,919 to Hermanns et al. and US 5,621,591 to Rahimi et al. and what is well known in the art. Carlow discloses a device for sorting different materials, comprising a conveyor belt (rc) and at least one sensor (cl and ct) which is assigned to the conveyor belt and senses pieces of material in a location-dependent manner on the conveyor belt, and at least one actuator (rsa) which sorts out pieces of material in accordance with signals of the at least one sensor in a location-dependent manner (c9 lines 42+), the improvement comprising at least one electromagnetic actuator (rsa) Carlow does not show the electromagnetic actuator

having at least one energizable coil rotatably suspended about a shaft, said coil, starting from a basic position, performing a rotational movement about the shaft in a gap between a pair of first oppositely magnetized permanent magnets to a second position in a gap between a pair of second oppositely magnetized permanent magnets, a magnetic field in the gap of the second permanent magnets extending opposite in direction to a magnetic field in the gap of the first permanent magnets, the rotational movement of the coil effecting an actuating operation for sorting out a piece of material.

7. Hermanns shows an actuator as discussed and described in claim 1 (see figures 1-6) offering the advantages of simplified triggering and control (c3 lines 53+) and generating a high moment (c3 lines 60+). Rahimi also shows an actuator as discussed and described in claim 1 (see figures 7-9) for the purpose of quick and accurate movement with low power consumption (c1 lines 27+).

8. It would have been obvious to one of ordinary skill in the art at the time of the applicants' invention to have modified Carlow to include the type of actuator taught by both Hermanns and Rahimi, and well known in the art, to achieve the advantages discussed above. Furthermore the actuators are being used in a predictable manner to provide actuation. The substitution of one actuator for another for the predictable result of actuation would have been obvious to one of ordinary skill in the art.

9. Regarding claims 5-22 examiner notes that the limitations of these claims appear to recite what is well known and conventional regarding such electro-magnetic actuators. Both Hermanns and Rahimi disclose many of these features and indicate the level of ordinary skill in the art.

Re claim 3 Carlow discloses the at least one electromagnetic actuator is driven in a location-dependent manner so as to pivot an ejector connected to the actuator into the-transport path of a respective sensed piece of material for sorting out the piece of material (c9 lines 42+).

Re claim 4 at least one electromagnetic actuator is arranged at the end of the conveyor belt at an outlet side, and wherein the ejector is pivotable into the transport path of the respective sensed piece of material (c9 lines 42+ and figure 2).

Re claims 23-25 see figure 2 and c9 lines 42+.

10. Claims 1, 2, 5-22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,167,141 to Carrara in view of US 6,311,919 to Hermanns et al. and US 5,621,591 to Rahimi et al. and what is well known in the art. Carrara discloses a device for sorting different materials, comprising a conveyor belt (14) and at least one sensor (1) which is assigned to the conveyor belt and senses pieces of material in a location-dependent manner on the conveyor belt, and at least one actuator (42) which sorts out pieces of material in accordance with signals of the at least one sensor in a location-dependent manner (c4 lines 5+), the improvement comprising at least one electromagnetic actuator (42) Carrara does not show the electromagnetic actuator having at least one energizable coil rotatably suspended about a shaft, said coil, starting from a basic position, performing a rotational movement about the shaft in a gap

between a pair of first oppositely magnetized permanent magnets to a second position in a gap between a pair of second oppositely magnetized permanent magnets, a magnetic field in the gap of the second permanent magnets extending opposite in direction to a magnetic field in the gap of the first permanent magnets, the rotational movement of the coil effecting an actuating operation for sorting out a piece of material.

11. Hermanns shows an actuator as discussed and described in claim 1 (see figures 1-6) offering the advantages of simplified triggering and control (c3 lines 53+) and generating a high moment (c3 lines 60+). Rahimi also shows an actuator as discussed and described in claim 1 (see figures 7-9) for the purpose of quick and accurate movement with low power consumption (c1 lines 27+).

12. It would have been obvious to one of ordinary skill in the art at the time of the applicants' invention to have modified Carrara to include the type of actuator taught by both Hermanns and Rahimi, and well known in the art, to achieve the advantages discussed above. Furthermore the actuators are being used in a predictable manner to provide actuation. The substitution of one actuator for another for the predictable result of actuation would have been obvious to one of ordinary skill in the art.

13. Regarding claims 5-22 examiner notes that the limitations of these claims appear to recite what is well known and conventional regarding such electro-magnetic actuators. Both Hermanns and Rahimi disclose many of these features and indicate the level of ordinary skill in the art.

Re claim 2 Carrara discloses the at least one electromagnetic actuator is arranged at a side of the conveyor belt (figure 1).

Re claim 27 Carrara further discloses the parts are made of metal (c1 lines 5+). The other limitations of the claim are apparent in the functioning of the combination proposed relative to claim 1.

### ***Response to Arguments***

14. Applicant's arguments filed 4-30-2009 have been fully considered but they are not persuasive. Applicant has argued that the Hermanns and Rahimi references are not analogous to the present invention and therefore it would not have been obvious to one of ordinary skill in the art to combine them with Carlow and/or Carrara. In doing so applicant has discussed the fields of conveyors and sorting as the relevant field of the invention. Examiner disagrees with this assertion and contends that both Hermanns and Rahimi are analogous in that they show electromagnetic actuators which provide particular functioning and advantages as discussed above. Further examiner notes that while the claims are drawn (preamble) to "a device for sorting different materials" the details of the claims and much of the structural recitation are drawn to a specific electromagnetic actuator. For this reason examiner contends that electromagnetic actuators whether contained in sorters or not are analogous art given that the bulk to the applicants invention is drawn to a specific actuator not simply a sorting device.



Examiner maintains that one of ordinary skill in the art would look at electromagnetic actuators outside of the just the sorting art when choosing/designing an actuator for a sorting system.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Hageman whose telephone number is (571) 272-3027. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/  
Supervisory Patent Examiner, Art  
Unit 3653

Application/Control Number: 10/579,601  
Art Unit: 3653

Page 9

MCH